

13.0 DIETSYS DATA ENTRY SYSTEM

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SECTION 13.0

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Four tools may be used to create DIETSYS Questionnaire Data Files. All of these are discussed in the sections listed below.

- Section 13.1 Optical Scanner
- Section 13.2 A Third Party Data Entry Software Package
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- 13.1 **Optically scan the questionnaires.** The most common method of scanning HHHQs is the mark-sense scanning method. Mark-sense forms are those with ovals or bubbles which line up with the valid responses. The respondent shades in the ovals. If you choose the mark-sense method of scanning, you **must** use the Categorical questionnaire format. That is, all frequencies (foods, vitamins, etc.) must be presented to the respondent as a list of choices rather than allowing the respondent to write in frequency values. See Section 10.3 for further information regarding the Categorical format.

Whether you scan your questionnaires, or contract someone to scan the forms for you, you are responsible for ensuring that the Questionnaire Data File created meets the DIETSYS requirements. In addition, you are responsible for creating a CFG File compatible with your Questionnaire Data File.

If you are designing your own questionnaire forms, carefully follow the instructions in Section 10. Remember that all questions on your questionnaire must appear in their Categorical format. Establish the coding rules for each question on your form before you finalize the printing of your questionnaire. Create a Standard CFG File for your form. The instructions for creating a CFG File are in Section 11. Enter sample questionnaires to verify your questionnaire configuration.

Be aware that two scanners may create different data files when used to scan the same questionnaire. You must configure your scanner to code the responses according to the DIETSYS guidelines (see Section 7 if using the SCAN92 forms; see Section 10 if scanning forms you designed). Some scanners will automatically insert header information at the beginning of each data line, while others will allow that information to be stored in other locations. In particular, if scanning the SCAN92 forms, be sure to verify that the file being created matches the file description in Section 7. In the SCAN92 default configuration, the scanner information (booklet number, application number, serial number, and batch number) are coded at the end of each data line. If you are scanning these questionnaires, you may either configure your scanner to write these variables to the locations specified in SCAN92.CFG; or create a new CFG File compatible with the Questionnaire Data File created by your scanner. To create a new CFG File, modify SCAN92.CFG by following the instructions in Section 11.4. You may use the **View or Modify Question List** menu item to move the header variables to the beginning of the Question List.

- 13.2 **Using a Third Party Data Entry Software Package.** Any commercial data entry program which creates ASCII files may be used to create Questionnaire Data Files. You must create a CFG File to match these Questionnaire Data Files. If you are entering, double-keying, and making all modifications to your Questionnaire Data Files using a commercial data entry system other than DIETSYS, you may create a Non-Standard CFG File. However, it is not required that Non-Standard CFG Files be used.

If you have designed your own questionnaire forms, be sure that all questions have been coded according to the requirements in Section 10. If you are entering data from the SCAN92 questionnaire distributed by the NCI, you must follow the coding guidelines in Section 7.

- 13.3 **The DIETSYS Data Entry System.** The DIETSYS Data Entry System provides an efficient and accurate method for key-punching data which has been recorded on paper questionnaires. It can be used for the SCAN92 questionnaire versions or any variant. The data entry system includes a double-key or verify mode which is a proven method for ensuring the accuracy of entered data.

You must have a CFG File which is compatible with your questionnaire prior to entering data using the DIETSYS Data Entry System. If you are entering data from the SCAN92 questionnaire use SCAN92.CFG.

If you have developed your own questionnaire forms, follow the instructions in Section 11 to create a CFG File to match your forms. Your questionnaire forms must meet the guidelines detailed in Section 10.

Entering data via the DIETSYS Data Entry System is a 3 step process. These steps are:

1. **Coding the Questionnaire.** This step consists of translating the respondent's answers into the coded responses to be typed. As badly as you may want to, this step **can not** be avoided without greatly increasing the incidence of keying errors. If using older NCI questionnaire (FULL87 or BRIEF87), write the coded responses to all questions in the "For Office Use Only" column of the questionnaire. The data entry technician must be able to type the coded responses without reading the questionnaire.

If you are keying data from SCAN92 questionnaires, write the numeric input code directly above the oval shaded by the respondent. On the pages of food frequencies, code column 1, then column 2, etc. That is, write a '1' above all shaded ovals in column 1, then move to column 2 and write a '2' above all the shaded ovals in that column, etc. Coding this questionnaire columnwise instead of question by question will reduce coding errors. See Section 7 for further details on coding SCAN92 questionnaires.

By carefully coding the questionnaire, you can query unusual responses **before** they cause unusual analysis results and thus, reduce keying errors. Keying errors are greatly increased when the data entry technician is required to translate the printed answers into the coded responses while typing.

2. **Entering New Questionnaire Data.** This step is the actual "keying" process. The data entry system will prompt for each question in sequence. This system has been designed so that an average typist is able to concentrate on the paper questionnaire and not have to continually look at the computer screen. However, all questions are displayed so that the typist can repeatedly check that s/he is on the right question.
3. **Verifying (Double Keying) Questionnaire Data.** Double Keying is a proven method for verifying data entry. It takes less time to enter a questionnaire a second time than it does to compare a printout of the entered data with the original questionnaire. The accuracy of data entry is much higher when double keyed. The DIETSYS Data Entry system provides a double key verification mode. When entering data in the verify mode, you will repeat the keying process. Each character typed will be compared to the corresponding character entered during the first session. If they are not the same, the computer will beep to alert you to stop and determine what the correct character is.

Once you have created a CFG File and coded all questionnaires, follow the instructions in Sections 13.4 through 13.8 to enter your questionnaire data using the DIETSYS Data Entry System.

13.4 Entering the DIETSYS Data Entry System

Select **Enter Questionnaire Data** from the main DIETSYS menu, and **Data Entry System** from the sub-menu. DIETSYS will display this menu:

DIETSYS Data Entry System

1> Enter New Questionnaire
2> Modify or Complete Existing Questionnaires
3> Verify (Double Key) Existing Questionnaires
4> Print Questionnaire Responses
5> Exit to DIETSYS (main menu)

Select the appropriate menu choice. Each of these is discussed in the following documentation sections:

- Section 13.5 Enter New Questionnaire
- Section 13.5 Modify or Complete Existing Questionnaires
- Section 13.5 Verify (Double Key) Existing Questionnaires
- Section 13.9 Print Questionnaire Responses

13.5 If you selected choices 1-3 (Enter, Modify, or Verify) from the menu shown in Section 13.4, DIETSYS will display a screen prompting for the files required by the DIETSYS Data Entry System. Enter the correct path and file names. You may use the LEFT/RIGHT arrow keys and the END key to move the cursor within each edit box. You may press ENTER to accept the default files presented by DIETSYS (only for the prompts which contain a complete file name as the default). Each file is described below.

1. **Questionnaire Data File.** All questionnaire data which is entered during this session will be appended to the Questionnaire Data File specified in this screen. Enter the name of the Questionnaire Data file which should contain the data from the current session and press ENTER.

If the file you enter exists, DIETSYS will ask if you want the data typed this session to be appended to the end of the file. You must be certain that the file contains data from the same questionnaire version as those being entered now.

2. **Portion Size Data File.** Food Names are stored in the Portion Size Data File (Section 12.5 and 12.23). The names are loaded from this file by the DIETSYS Data Entry System so they may be used to prompt for food frequencies. To accept the default name shown, press ENTER. Otherwise, type the name of the Portion Size Data File you will be using when analyzing the questionnaires and press ENTER.
3. **Questionnaire Configuration File.** The DIETSYS Data Entry System uses the information stored in the CFG File to determine the identity and sequence of all questions on your questionnaire. To accept the default name shown, press ENTER. Otherwise, type the name of the CFG File which corresponds to the questionnaires being entered.

If you are Modifying or Verifying questionnaire data, DIETSYS will present a menu to allow you to choose the questionnaires to be modified/verified. This menu is described in Section 13.6. If you are entering data from a new questionnaire, DIETSYS will present the Data Entry Screen described in Section 13.8.

13.6 **Selecting Questionnaires to Modify, Verify or Print.** DIETSYS uses a menu similar to the one shown below to allow you to select one questionnaire or a set of questionnaires to be modified, verified, or printed. If you are modifying or verifying questionnaires, DIETSYS will present this menu after you have followed the steps in Sections 13.4 and 13.5. If you are printing questionnaire responses, you may access this menu by following the steps in Sections 13.4 and 13.9.

DIETSYS Data Entry System

1> Specify Questionnaire to Mdfify or Complete
2> Complete All Unfinished Questionnaires
3> Mdfify All Questionnaires
4> Exit Mdfify Mde

If you are printing questionnaires, only the menu items described in A and C below will be available. The features of this menu can be used to do the following tasks:

- A. **Specify Questionnaire(s).** Select menu item #1 if you want to choose a specific questionnaire to be modified, verified or printed. You may use the screen described in Section 13.7 to select a questionnaire based on Respondent ID, Name (if asked), and/or Social Security Number (if asked).
- B. **All Unfinished or Unverified Questionnaires.** DIETSYS will step through each questionnaire in the data file. If you are in modify mode, only incomplete questionnaires will be presented for editing. If you are in the verify mode, only questionnaires which have not yet been double-keyed (verified) will be presented.
- C. **All Questionnaires.** Select this menu item if you wish to modify, verify, or print all questionnaires in the data file. DIETSYS will step through all questionnaires in the data file and allow you to modify or verify each one. If printing, DIETSYS will print the coded responses for all questionnaires in the data file. In any mode, you may exit by pressing ESC at any time.

Once you have selected questionnaires, DIETSYS will use the Data Entry Screen described in Section 13.8 to modify or verify these questionnaires.

If printing, DIETSYS will print the coded responses of the questionnaire(s) requested. DIETSYS will then re-display this menu. If you select more questionnaires for printing, the additional listings will be appended to the Print File (if the output was not directed to the printer).

- 13.7 **Specify Questionnaire - Search Screen.** DIETSYS allows you to select questionnaires based on Respondent ID, Name, and/or Social Security Number. Set the search criteria in the screen below to modify, verify or print a particular questionnaire or set of questionnaires.

Search Field Selection	
	Use field? Value for search
Respondent ID	Y
Last Name	N
SSN	N

One or more of the variables may be used as search fields at one time. Only questionnaires which match **all** search fields will be selected by DIETSYS for modifying, verifying, or printing.

STEP 1: If you wish to select questionnaires based on Respondent ID, enter Y next to Respondent ID and press TAB. Type the exact 10 character Respondent ID of the questionnaire to be modified, verified, or printed. DIETSYS will search for all questionnaires with the Respondent ID entered. It is recommended that each questionnaire have a unique Respondent ID.

STEP 2: If you wish to select questionnaires based on Last Name, enter Y next to Last Name and press TAB. Enter the entire Last Name to be used in the search. If Use Field is set to Y for both Respondent ID and Last Name, only questionnaires which match both fields will be selected.

STEP 3: If you wish to select questionnaires based on "Social Security Number", enter Y next to SSN and press TAB. Enter the entire SSN to be used in the search. If Use Field is set to Y for Name and/or Respondent ID as well as SSN, only questionnaires which match all used fields will be selected.

The TAB key will move from the Use Field column to the Value For Search column if the Use Field column is set to Y. Otherwise, TAB will move to the Use Field column of the next row. The UP/DOWN arrow keys may also be used to change rows.

13.8 **Data Entry Screen.** DIETSYS uses Data Entry Screens similar to the one shown below to Enter, Modify, and Verify questionnaire data.

DIETSYS Data Entry System	
Questionnaire: 1	ID:
File: C:\V3\DEMSYS\PROJECT1.DAT	
Respondent ID..... STUDENT001	
Date..... 100793	
Last Name.....	
First Name.....	
Middle Name.....	
Maiden Name.....	
Numeric state code...	
Social Security #....	

- A. **Modes of Data Entry.** Modify, Verify, and Entry are the three types of data entry sessions. If you access a Data Entry Screen by selecting **Enter New Questionnaire**, the edit windows will be empty and ready to receive data for the first time.

If you selected **Modify or Complete Existing Questionnaires**, DIETSYS will fill the edit windows with the responses entered in a previous session. To modify the data, simply type over the responses shown. When you have finished making changes to a questionnaire, you may press TAB to advance to the beginning of the next questionnaire.

If you selected **Verify (Double Key) Existing Questionnaires**, the edit windows will appear empty. As a character is typed, DIETSYS compares it to the character stored in the Questionnaire Data File for the same response. In other words, DIETSYS compares each typed character with the character typed in the most recent data entry session. If the new character is **not** the same as the character entered previously, DIETSYS will cause the computer to beep. The beep is to alert you to look at the screen. The character typed in the previous session will be presented. Look to the questionnaire form to determine which character is correct. Press F1 to remove the warning message and enter the correct character.

- B. **Using the Entry Screens.** Begin by typing the coded response in the first field. In the example screen, this would be Respondent ID. When you have filled a field, the cursor will automatically move to the next field. Only press ENTER if the response does not fill the current field. For example, if the respondent's last name is only 5 characters, press ENTER after typing the name to proceed to the next field.

When you have filled a page, DIETSYS will automatically go on to the next page. You may use your PGUP and PGDN keys to review a previous page and then return

to the current page. Do not use PGDN to skip through data fields that were left unanswered by the respondent. You must fill each field with the Missing Code (blanks may be used for text fields such as Name and Address). Carefully follow the coding requirements for your questionnaire. (NOTE: Directional keys are disabled in the verify mode, they cannot be used to skip fields. Each field must be entered.)

If you press ENTER on an empty field, DIETSYS will automatically fill the field with the "fill character" specified in the CFG File for that field. You may specify the fill character to be used for Other Questions. The fill character for all Non-Categorical Food Frequencies and HHHQ Questions is '9' ('9' is the Missing Character for Non-Categorical questionnaires). The fill character for all Categorical Food Frequency questions is the Missing Code. The fill character for on/off HHHQ Questions (Other Vitamins, Type of Table Fat, and Type of Cooking Fat in their Categorical Format) is '0' (off, or "not selected"). The fill character for all other Categorical HHHQ Questions is the Missing Code.

- C. **Exiting the Data Entry Screens.** If a questionnaire is being entered for the first time, DIETSYS will automatically save the data to the Questionnaire Data File when all screens have been completed. Once you have entered the data in the last screen for the current questionnaire, DIETSYS will inform you that the data has been saved. You must press F1 to continue.

If modifying or verifying data, DIETSYS will prompt you to save when all screens for this questionnaire have been completed. You must enter 'Y' to the question "Save Questionnaire To File" to save the change made to the current questionnaire. Any changes made to other questionnaires have already been saved.

DIETSYS will then present the first screen of the next questionnaire. If you have no other questionnaires to be entered, simply press ESC.

You may quit a data entry session in the middle of a questionnaire. To do this, simply press ESC at any time. DIETSYS will prompt you to save the incomplete questionnaire. If you answer 'N' to this prompt, only the data entered or changes made for the current questionnaire will be lost. If you save an incomplete questionnaire, you may finish the data entry session at a later time. **DO NOT ANALYZE QUESTIONNAIRES WHICH ARE INCOMPLETE.**

- 13.9 **Print Questionnaire Responses.** You may print the coded responses of every question on one or more questionnaires by selecting "Print Questionnaire Responses" from the DIETSYS Data Entry System menu (Section 13.4). You will be able to select the questionnaires to be printed based on search fields (Respondent ID, Name and Social Security Number, if asked).

The Respondent ID and Questionnaire Data File name will appear on every page. The page number will begin at 1 for each questionnaire.

DIETSYS will display the screen shown below to allow you to send the listing of questionnaire responses directly to a printer or to store the responses in a file. Use the

UP/DOWN arrow keys to highlight your choice and press ENTER. If you select "File" you will be prompted for a file name. If you prefer to send the responses directly to a printer, be sure your printer is online.

DIETSYS Data Entry System

Output Questionnaire Responses To:

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File

Printer

An average questionnaire will require 5 pages to print the coded responses. DIETSYS will display a screen prompting for the files required to print the questionnaire responses. Enter the correct path and file names. You may use the LEFT/RIGHT arrow keys and the END key to move the cursor within each edit box. You may press ENTER to accept the default files presented by DIETSYS (only for the prompts which contain a complete file name as the default). Each file is described below.

1. **Questionnaire Data File.** Enter the name of the Questionnaire Data file which contains the data to be printed.
2. **Portion Size Data File.** Food Names are stored in the Portion Size Data File (Section 12.5 and 12.23). The names are loaded from this file by the DIETSYS Data Entry System so they may be printed next to the coded frequency and serving size responses. Enter the name of the Portion Size Data File you will be using when analyzing the questionnaires.
3. **Questionnaire Configuration File.** The DIETSYS Data Entry System uses the information stored in the CFG File to determine the identity and sequence of all questions on your questionnaire. Enter the name of the CFG File which corresponds to the questionnaires being printed.
4. **Print File.** DIETSYS will not prompt for this file if you instructed DIETSYS to direct the questionnaire response to the printer. The Print File will be created by DIETSYS and will contain a list of the coded responses to the questionnaires you will select.

Follow the instructions in Sections 13.6 and 13.7 to complete the process of printing the select questionnaires to be printed or select "Print All Questionnaires" to print the coded responses for all questionnaires in the data file specified above.